

# CHANGING WATER GOVERNANCE IN INDIA

## Taking the longer view

P.P. Mollinga<sup>1</sup> and S.P. Tucker<sup>2</sup>

This paper is an introduction to the collection of five papers on changing water governance in India in this issue of SAWAS. Four of the five papers (Paranjape & Joy, Gupta, Pani, Wagle & Warghade) were invited for and presented at a workshop held in Hyderabad on 30 June 2009; the fifth paper (Cantle) was invited after the workshop, through a call for additional papers. The workshop was organized as an end-of-project activity of the European Commission funded research project called STRIVER (July 2006 – June 2009).<sup>3</sup> The project investigated issues of Integrated Water Resources Management (IWRM) and water governance in the Tungabhadra sub-basin of the Krishna basin.<sup>4</sup> The point of deliberation was not the immediate situation in the research area, but the longer-term scenario and trends in water governance in the present context of India's fast-growing economy and the process of globalization.

### A changing context for water resources governance and management

The water resources governance and management scenario in India is undergoing structural changes for at least three reasons.

First, many basins are closing, that is, in the case of surface water, allocation equals or exceeds available water; in case of groundwater, extraction exceeds recharge. This means that changing water use is increasingly a process with zero-sum game features. This makes the allocation of water in space, in time, and over different sectors and social groups increasingly interlinked and complex. 'Complexity' has two meanings in this regard. The first is that the interdependencies

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<sup>1</sup> Senior Researcher, ZEF Center for Development Research, Bonn, Germany, [pmollinga@uni-bonn.de](mailto:pmollinga@uni-bonn.de).

<sup>2</sup> Principal Secretary, Irrigation and Commissioner, Command Area Development Agency (CADA), Government of Andhra Pradesh.

<sup>3</sup> STRIVER: Strategy and methodology for improved IWRM - An integrated interdisciplinary assessment in four twinning river basins (2006-2009) is a project supported by the European Commission Sixth Framework Programme (FP6). SUSTDEV-2005-3.II.3.6: Twinning European/third countries river basins. Contract number: 037141.

<sup>4</sup> On the project website [www.striver.no](http://www.striver.no) the policy briefs, technical briefs, reports and journal articles that the project has produced can be found. The project outcomes will be published in two books, the first of which was released on 23 April 2010: Geoffrey D. Gooch and Per Stålnacke (eds.) (2010) *Science, Policy and Stakeholders in Water Management: An Integrated Approach to River Basin Management*. Earthscan.

in water management are intensifying, creating more and new feedback loops and externalities. The second meaning is that, partly as a result of this, that water management is increasingly contested – more interests need to be mediated with increasing stakes attached. Both the concrete and the political complexity of water resources management are proliferating.

Second, India is changing through rapid urbanisation and industrialisation, giving rise to new priorities and demands in water use, and a changing economic and political role of agricultural water use. Because agriculture is the dominant freshwater user (92% of surface and groundwater withdrawals according to FAO<sup>5</sup>), it is a safe prediction that the agriculture water sector will have to accept lower allocations in the future, by design or by default. This puts new emphasis, both on the efficiency of water use in agricultural cultivation, and on the equity dimensions of its distribution.

Third, though water resources management is inherently a localised phenomenon, global ideas and concerns are increasingly entering Indian water policy and politics, and appropriated and embedded in domestic discourse and practice in a variety of (transformed) ways. Global discourses on the role of the market in water resources management, the need for ‘integration’ of uses and users, and notions of climate change and environmental flow are finding their way in, resonating with, or being opposed by different actors in the Indian water economy and polity. The mechanisms through which this happens are various.

These three changes may produce an increasing number of water controversies through which (new) institutional arrangements will be negotiated. They also produce ‘integration by default’, different water uses, and users getting evermore connected, even if that is in an unplanned manner. Present policy responses to this changing context for water governance and management do not always seem to be fully adequate – hence the question what the ‘longer view’ should be.

At the level of Government of India policy these processes have also been reflected. Various documents, like the Mid Term Appraisal of the 10<sup>th</sup> Plan, Report of the Sub Committee of the National Development Council and 11<sup>th</sup> Plan and its Approach Paper, apart from the National Water Policy 2002, present the evolution of the thought process on water resources management at Government of India level. All these documents express concern on the prevailing low irrigation system efficiency, which is of the order of 35-45%, particularly in view of the role played by irrigated agriculture for food security while also recognizing the various other economic benefits related to addressing the issues of poverty, migration, etc. The common recommendation from these documents is to improve the efficiency of the irrigation system by 20 percent by providing a meaningful role to farmers in the management of the irrigation systems, by establishing appropriate state and basin level institutional arrangements,

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<sup>5</sup> See FAO’s AQUASTAT, Figure 1 at <http://www.fao.org/nr/water/aquastat/countries/india/index.stm>.

reorganizing the Irrigation departments, provision for operation and maintenance, reducing gap ayacut, etc.

### **Challenges to water governance arrangements: experiences with reform**

There are, at present, different approaches to water sector reform in different Indian States, which could be regarded as different 'experiments' dealing with the new demands on water resources management.

The government of Maharashtra has chosen the road of establishing a regulatory authority for water, taking energy sector reforms as an example. The MWRRRA framework (Maharashtra Water Resources Regulation Authority) is now being taken over by several Indian states. In Maharashtra, the MWRRRA objectives have a focus on the creation of individual water resources rights/entitlements, the background of which is discussed in the paper by Wagle and Warghade. The primary role of the MWRRRA may lie in rearranging sector allocations of water – particularly as regards to increasing demands of the industrial and urban sector, in the context of (neo) liberalization as unrolling in India.

However, regulatory authorities can be conceived from different perspectives. The National Water Policy, 2002, of the Government of India, declaring water as a prime natural resource, a basic human need and a precious national asset, asserts that *'adequate safe drinking water facilities should be provided to the entire population, both in urban and in rural areas..... drinking water needs of human beings and animals should be the first charge on any available water..... and in view of the vital importance of water for human and animal life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and management of this resource and its optimal, economical and equitable use has become a matter of the utmost urgency'*. This policy statement by the Government of India signifies an avowal of the water as a community resource held by the State in 'public trust' in recognition of its duty to respect the principle of inter-generational equity. The Supreme Court, in a number of cases, has also interpreted the role of the State *vis-à-vis* national natural resources in terms of Public Trust Doctrine. Further, explicitly defining its role *vis-à-vis* national natural resources under the section 'Principles' of the National Environmental Policy, 2006, Government of India says that *'The State is not an absolute owner, but a trustee of all natural resources, which are by nature meant for public use and enjoyment, subject to reasonable conditions, necessary to protect the legitimate interest of a large number of people, or for matters of strategic national interest'*.

The Andhra Pradesh State Regulatory Commission Act, 2009, is intended to support and strengthen this basic notion of protecting the rights of the people *vis-à-vis* establishing corporate control over water. It is intended to be an instrument of water equity as opposed to a mechanism for regulating water markets; ushering in water use efficiency as opposed to establishing a machinery for effecting economic water pricing; create an environment

supportive of participation of stakeholders as opposed to corporatization of water; supporting equitable public access as opposed to establishing privatization and entitlements; and ensuring water equity as opposed to a mechanism for regulating water markets.

Another emphasis in policy responses to changing water scenarios and societal demands on the water sector is the continuation and perhaps also taking into view the new levels of irrigation reform efforts. The government of Andhra Pradesh is continuing the irrigation/water sector reforms started in the late 1990s with the recent (2009) establishment of Project Committees for canal irrigation, potentially creating an important new governance level for farmer irrigation management. It is changing the professional make-up of the irrigation bureaucracy through an emphasis on multidisciplinary teams. In the state of Karnataka, a different process of federation of Water Users Association is ongoing. The role of development funding agencies in these processes varies.

Privatisation of water resources management has been talked about a lot, but there is little far-reaching practice as yet, certainly in agricultural water use. The booming of private lift irrigation, sometimes associated with water markets, is not, as such, the result of government policy, but arguably exactly the result of the absence of government control. However, the problem of regulating groundwater overextraction, which does require government intervention, remains unsolved.

The arrangements for inter-state water allocation created in the 1950s through the Water Disputes Act seem not to suffice under the newly emerging conditions. Reaching an agreement between and among States seems to be increasingly problematic, and the process seems to be increasingly prone to politicisation. There are problems with the present legalistic and centralised framework that almost exclusively focuses on surface water. It seems necessary to broaden the agenda of the Tribunals, or to have additional processes to deal with the broader spectrum of water types, water uses and water issues at regional levels.

### **Alternative water resources management paradigms**

The considerations above suggest that the combination of neoliberalization, increasing demands on water, proliferating water controversies, increasing prominence of the environmental aspect of water resources and the limited scope and flexibility of present institutional arrangements, may constitute a 'tipping point' for water governance. Present debates and policy initiatives may be read as the emergence and experimentation with new overall concepts and frameworks to develop a new water resources 'paradigm' for the future.

Such a new paradigm or new paradigms would have to address issues both on the material/technical side and on the institutional side of water resources management, as well as having implications for the water resources knowledge system. When the general requirement for future policy frameworks is to address the issues related to the intensifying

interdependencies in water resources management, systematic thinking through the practicalities of 'integration', no matter how that is exactly defined, is needed.

As regards the *material/technical dimension* the challenge is to design and operate water infrastructures for multiple uses and users: how is the idea of multifunctionality given concrete shape, or perhaps, given shape in concrete? This needs to move beyond earlier approaches like 'multiple purpose dams', as the range of uses and users is now much broader than the government-defined perspective on irrigation, hydropower and flood control, and there is a crucial problem of trade-offs and commensuration. Considerable technical creativity will be needed.

In the case of *institutional challenges*, an important issue may be to reform the present bi-polar governance system, the two poles being the state/government and the village/community. The proliferation of water controversies at the regional level of basins, sub-basins, aquifers and other regional entities of interlinked water use, seems to ask for the establishment of institutional arrangements of a deliberative kind at this 'intermediate' level.

As regards the *knowledge system*, the above suggests a need to rethink water resources professionalism in interdisciplinary ways. Specialised expertise on sub-sectors and different dimensions of water resources management will remain important; but in addition to this, a group of professionals needs to be educated and trained that can think and act beyond disciplinary and sector boundaries, and possesses communication and negotiation skills to facilitate 'integration' across the 'problemshd' of water resources management.

### **The papers in the collection**

The five papers in this collection address some of the issues suggested above. All papers discuss and illustrate present states of affairs in water resources management, while each explores a different dimension of the 'longer view'.

The paper directly making use of the research under the STRIVER basin is Paranjape and Joy's contribution on tanks in the Tungabhadra sub-basin, particularly the upper part of that sub-basin. The paper shows the multifunctionality of local tank systems and discusses how these might be combined with macro-scale water supply infrastructures like canal systems to enhance their functioning and sustainability. It thus presents a very material and concrete perspective on 'integration'.

The other four papers address different aspects of institutional change in the water sector. Gupta's paper reports on the irrigation reform process in Andhra Pradesh and its evolution over time. Salient points of the paper are the description of the step-wise and strategic pursuing of reform of the sector and the gradual establishment, now also at the project levels, of more inclusive and deliberative forms of governance.

The paper by Pani discusses how to understand inter-state water disputes, taking the Cauvery dispute as an example. He sketches how the dispute continues over time, and most importantly, that it is much more than a controversy of water. This suggests the limitations of procedural frameworks that exclusively focus on yearly allocation of surface water resources.

Wagle and Waghade's paper focuses on Maharashtra. They discuss in great detail the process of formulation and the content of the Maharashtra Water Resources Regulation Authority Act. Their main concerns are the transparency in the formulation and implementation process and implications of the Act's provisions for vulnerable, resource-poor groups in society.

The final paper by Cantle looks into the irrigation department of the state of Uttar Pradesh, by reporting the results (and the methodological constraints) of an employee survey that the author has conducted as part of the water sector reform programme. It is a unique paper in the sense that very little published work exists on the internal dynamics of bureaucratic organisations in the water sector, and even less on the motivations and concerns of the employees of these organisations.